

In the present application, the first final rejection mailed on November 2, 2005 rejected Claims 1, 5, 7, and 15 under 35 U.S.C. § 103(a) as being unpatentable over Sinofsky in view of Deak, and further in view of Tucker, and Claims 17 and 63 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sinofsky in combination with Deak and further in view of Puttermann et al.

In the second final rejection mailed on March 27, 2006, the Office Action stated that "this action is a result of the typographical errors present in the final rejection that do not leave a sufficiently clear record of the rejections applied to the claims and the examiner's rational relating thereto, and of the request for reconsideration filed March 6, 2006." It is worthwhile noting that the paper filed on March 6, 2006 by applicants did not amend the claims. Furthermore, in the most recent final rejection, a new reference was introduced, whereby Claims 1, 5, 7, and 15 are now rejected under 35 U.S.C. § 103(a) as being unpatentable over Sinofsky in combination with Deckert et al., Deak, and the admitted prior art, and Claims 17 and 63 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sinofsky in combination with Deckert et al., Deak, and the admitted prior art. Therefore, the Office Action should not have been made final because the grounds of rejection are new, which were neither necessitated by applicant's paper of March 6, 2006, nor based on information submitted in an Information Disclosure Statement filed during the period set forth in 37 C.F.R. § 1.97(c) with the fee set forth in 37 C.F.R. 1.17(p).

The Rejection of Claims 1, 5, 7, and 15 Under 35 U.S.C. § 103(a)

Claims 1, 5, 7, and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sinofsky in combination with Deckert et al., Deak, and the purported admitted prior art of employing a filter for reducing exposure to undesirable wavelengths. Applicant respectfully traverses the rejection.

LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS<sup>PLLC</sup>  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100

The Deckert et al. Patent is Not Citable Against the Present Application

The Deckert et al. patent is not citable against the present application. The present application was filed on September 2, 1997. The Deckert et al. patent was filed on January 19, 2001, and is a continuation-in-part of Application No. 09/111,174, filed on July 8, 1998, now U.S. Patent No. 6,332,092. Therefore, the present application has a filing date that is earlier than either the filing date of the Deckert et al. patent (U.S. Patent No. 6,487,440) and the parent (U.S. Patent No. 6,332,092). Accordingly, the Deckert et al. patent is not citable against the present application. Since the Examiner applies the Deckert et al. patent to provide a suggestion or motivation, and since the Deckert et al. patent is not properly citable against the present application, for this reason alone, there is no *prima facie* rejection.

There is No Suggestion or Motivation

The Examiner states,

It would have been obvious to the artisan of ordinary skill to employ the laser of Deak in the method of Sinofsky, since Sinofsky teaches a variety of laser configurations, and since the laser of Deak only requires a few parts and no optical fibers, since only electrical energy need be transmitted through the catheter, which is desirable, as taught by Deckert et al. . . .

The Examiner appears to have relied on Deckert et al. to provide the requisite motivation. As discussed above, Deckert et al. is not citable against the present application. If Deckert et al. is removed, there is no suggestion or motivation.

Assuming for the sake of argument that Deckert et al. were citable, there would still be no suggestion or motivation.

Deckert et al. does, in fact, teach the use of optical fibers. At Col. 10, lines 42-45, Deckert et al. teaches, "FIG. 4 is a cross-sectional view taken normal to the optical axis of the optical probe 300 just in front of the distal ends of numerous optical fibers of the bundle 340, two of which are referred to by the reference numbers 312 and 314 (FIG. 3)."

LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS<sup>PLC</sup>  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100

The initial burden is on the Examiner to provide some suggestion of the desirability of doing what the inventor has done.

To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

*Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. & Inter. 1985); M.P.E.P. § 2142, pages 2100-134, Rev. 3, August 2005.

When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper. *Ex parte Skinner*, 2 U.S.P.Q.2d 1788 (Bd. Pat. App. & Inter. 1986); M.P.E.P. § 2142, pages 2100-134, Rev. 3, August 2005.

In support of *prima facie* obviousness, the Office Action states that "It would have been obvious to the artisan of ordinary skill to employ the laser of Deak in the method of Sinofsky, since Sinofsky teaches a variety of laser configurations, and since the laser of Deak only requires a few parts and no optical fibers." This is not a convincing motivation as the prior art invention of Sinofsky requires an optical fiber.

Sinofsky teaches it is required that the catheter have an optical fiber to transmit a pump laser at a specific wavelength that is easily carried by an optical fiber to excite a laser in the tip to a wavelength that is not easily carried through the optical fiber. Sinofsky characterizes the problem thusly,

Recent research in laser-tissue interactions has indicated the desirability of using mid-infrared wavelengths of about 3 micrometers for procedures such as ablation of myocardial tissue, vaporization of plaque in arteries, shallow coagulation and the like. The shallow penetration of these wavelengths allows clean holes, minimal trauma to the surrounding tissue and minimal particulate size. The most highly absorbed wavelength is

LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS<sup>PLC</sup>  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100

approximately 2.94 micrometers which is, coincidentally, the exact output wavelength of the erbium-doped YAG laser. Although the erbium-doped YAG laser is easy to fabricate, the catheter delivery system for its output wavelength is not straightforward. The most commonly-used optical fiber is made of silica, which has a passband in the wavelength range of approximately 0.3 to 2.3 micrometers. Laser radiation outside this passband, including the mid-infrared range, is highly absorbed by silica and is not transmitted through the fiber. (Col. 1, lines 30-48.)

The solution proposed by Sinofsky is to have a pump laser transmit at a wavelength that easily passes through an optical fiber to excite a laser at the distal tip to a wavelength that is not easily transmitted through the optical fiber. Sinofsky, teaches the following,

All that is required is that the output wavelength provided by the laser be selected as suitable for the desired treatment procedure, while the pump wavelength transmitted through the catheter be within the passband of the optical fiber and be suitable for optical pumping of the laser. Thus, there is provided methods and apparatus for treating relatively inaccessible locations with laser radiation of a selected wavelength, even though that wavelength is not easily transmitted through an optical fiber." (Col. 7, lines 17-27.)

The reason put forth in the Office Action as motivation to modify the Sinofsky patent is contradicted by the express teaching of the Sinofsky patent.

Therefore, modification of the Sinofsky patent with the Deak patent to eliminate the optical fiber in the catheter would result in changing the prior art invention of the Sinofsky patent in a very material respect. It is well established that a proper *prima facie* rejection cannot result in changing the principle of operation of the prior art invention. "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." M.P.E.P. § 2143.01, VI., p.2100-138, Rev. 3, August, 2005.

#### The Prior Art References Fail to Teach All the Claim Limitations

The Office Action is silent as to how either the Sinofsky patent or the Deak patent teach or suggest all the limitations of the claims. The Office Action fails to mention, at least, how or

why the references teach or suggest a focusing lens having a flat surface adjacent the wave matching layer and a concave surface adjacent the acoustic conducting medium that focuses sound waves in the acoustic conducting medium, as recited in Claim 1, a housing that is at least partly transparent to sonoluminescent light, as recited in Claim 5, filtering at least a portion of the emitted sonoluminescent light such that only light within a predetermined range of wavelengths is emitted from the source, as recited in Claim 15, and wherein the sonoluminescent light emitted from the source comprises x-ray radiation, as recited in Claim 17.

In contrast to Claim 1, the Deak patent describes an acoustic coupling device 10, which does not have, at least, "a concave surface adjacent the acoustic conducting medium." (See Fig. 9, reference no. 10.) The Office Action states,

It would have been obvious to the artisan of ordinary skill to employ a focusing lens having a flat surface adjacent the wave matching layer and a concave surface adjacent the acoustic conductive medium, as this is just a matter of choice, since the configuration of Deak is equivalent to that claimed, as they both provide a focused beam, thus this particular configuration is not critical and provides no unexpected result.

However, a *prima facie* rejection requires that all the claim limitations be taught or suggested by the prior art. The configurations of Deak and Claim 1 are not equivalent. In contrast to Claim 1, the Deak patent requires a tapered guide 12 being placed adjacent the inside perimeter of the chamber 11 to concentrate the acoustic energy density. (Col. 16, lines 14-16.)

The Office Action fails to mention how or why a filter is taught or suggested by any reference. Applicant has not admitted the use of filters, as claimed, is prior art.

Accordingly, the withdrawal of the rejection of Claims 1, 5, 7, and 15 is respectfully requested.

LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS<sup>PLLC</sup>  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100

The Rejection of Claims 17 and 63 Under 35 U.S.C. § 103(a)

Claims 17 and 63 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sinofsky in combination with Deckert et al., Deak and the admitted prior art of employing a filter for reducing exposure to undesirable wavelengths, as applied to Claims 1, 5, 7, and 15 above, and further in view of Puttermann et al. Applicant respectfully traverses the rejection.

Claims 17 and 63 depend from Claim 1. Applicant submits that Claim 1 is allowable, therefore, Claims 17 and 63 are also allowable. Furthermore, there is no suggestion or motivation to combine the Puttermann patent with either the Sinofsky patent or the Deak patent.

Accordingly, the withdrawal of the rejection of Claims 17 and 63 is respectfully requested.

Withdrawn Claims 64 and 65

Reconsideration of the withdrawal of Claims 64 and 65 is respectfully requested. Claims 64 and 65 are related to Claims 1, 5, 7, 15, 17, and 63, and examination of Claims 64 and 65 can be made without a serious burden. Though Claims 64 and 65 are independent and distinct, the claims must be examined if there is no serious burden. "If the search and examination of all the claims in an application can be made without serious burden, the examiner must examine them on the merits, even though they include claims to independent and distinct inventions." (M.P.E.P. § 803, p. 800-4, Rev. 3, August 2005.)

There would be no serious burden because examining the recitations of Claims 64 and 65 is included in the examination of the recitations of Claims 1 and 5, respectively.

LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS<sup>PLC</sup>  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100

## CONCLUSION

In view of the foregoing remarks, applicant respectfully submits that Claims 1, 5, 7, 15, 17, and 63-65 are allowable. If the Examiner has any further questions or comments, the Examiner may contact the applicant's attorney at the number provided below.

Respectfully submitted,

CHRISTENSEN O'CONNOR  
JOHNSON KINDNESS<sup>PLLC</sup>



Laura A. Cruz  
Registration No. 46,649  
Direct Dial No. 206.695.1725

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Date: Jun 27, 2006



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LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS<sup>PLLC</sup>  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100